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December 9, 2014

Mr. Walter L. Thomas, Secretary
Alabama Public Service Commission
RSA Union Building
100 North Union Street, Suite 850
Montgomery, Alabama 36130



**Re: Final Version of Environmental Compliance Plan Associated with
Rate CNP; Docket Nos. 18117 and 18416**

Dear Mr. Thomas:

We are enclosing for filing an original and ten (10) copies of the final version of Alabama Power's environmental compliance plan. Included in this plan are the following:

- A report on legislative and regulatory matters relevant to Alabama Power's environmental compliance activities;
- A discussion of Alabama Power's five-year projections on capital and O&M expenditures related to environmental compliance activities; and
- A detailed summary of Alabama Power's capital and O&M expenditures scheduled for the upcoming environmental cost year.

If the Commission or its Staff has any questions concerning this information, please do not hesitate to contact the undersigned or Mr. Nick Sellers at (205) 257-3111, who is the designated Company individual under Rule 10 of the Special Rules.

Sincerely,

Enclosures

cc: Commissioner Twinkle Andress Cavanaugh
Commissioner Jeremy H. Oden
Commissioner Chris "Chip" Beeker, Jr.

Secretary of the Alabama Public Service Commission
Mr. Walter L. Thomas, Jr. (11)

Executive Director and Chief Administrative Law Judge
The Honorable John A. Garner

Director, Electricity Policy Division
Mr. John D. Free

Office of the Attorney General
Ms. Olivia W. Martin

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REGULATORY AND LEGISLATIVE UPDATE

The following discussion provides a regulatory and legislative update on environmental issues affecting Alabama Power Company, including acid rain and interstate transport, ambient air quality standards, regional haze (visibility), hazardous air pollutants, climate change, water initiatives, toxics release inventory, and coal combustion residuals. Environmental compliance requirements affecting Alabama Power are administered by the U.S. Environmental Protection Agency (EPA), the Alabama Department of Environmental Management (ADEM), and other state and local authorities. In addition to the updates provided, Alabama Power has included, as it customarily does, background information on a number of regulatory and legislative programs that have given and continue to give rise to the environmental compliance strategies employed by the Company. While the Federal statutes regarding environmental compliance have not been substantially altered in many years, multiple new regulations continue to be promulgated in order to implement various provisions of those laws. Major EPA regulations for the electric utility industry often undergo judicial review, and courts play an increasingly significant role in the final outcome of regulations through their interpretation of the relevant federal statutes as well as their review of the regulations implementing those statutes.

ACID RAIN REQUIREMENTS

The Acid Rain Program was implemented under Title IV of the Clean Air Act Amendments (CAAA) of 1990. This program required significant reductions in the emissions of sulfur dioxide (SO₂) and nitrogen oxides (NO_x), which can lead to the formation of acid rain. For SO₂, the Acid Rain Program ushered in a new and innovative “cap and trade” concept that established a permanent nationwide cap on the total amount of SO₂ that may be emitted by electric power plants. The program set a specific number of SO₂ “allowances” (one allowance being equivalent

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to one ton of emitted SO₂) that achieves the national goal for SO₂ reductions. Allowances can be banked, traded and sold. This market-based program allows affected sources to design and implement compliance strategies at lower costs while achieving the desired environmental goals. Each generating plant affected by the Acid Rain Program must have sufficient allowances to cover its annual SO₂ emissions. The program requires rigorous emissions monitoring and reporting protocols to ensure accuracy and accountability, to support the allowance trading element, and to achieve the desired program results. Alabama Power's compliance strategies for the Acid Rain Program have included switching to lower sulfur coals, purchasing, trading and banking SO₂ allowances, as well as installing emissions control equipment. Every year, Alabama Power has maintained adequate SO₂ allowances in its accounts to comply with the Acid Rain Program.

The requirements of the Acid Rain Program have been implemented in two phases. Phase I requirements became effective for SO₂ on January 1, 1995. EPA allocated SO₂ allowances to Phase I units using a historical fuel consumption (i.e., heat input) baseline and a specific emission rate of 2.5 pounds of SO₂ per million Btus of heat input. Due to litigation involving the final rules, the effective date for Phase I NO_x compliance was delayed one year until January 1, 1996. The Phase I limits for NO_x were 0.50 and 0.45 pounds of NO_x per million Btus of heat input for dry-bottom wall-fired and tangentially-fired boilers, respectively. Alabama Power's coal-burning units have complied with the Acid Rain Program annual NO_x emission rate limits since those limits became effective in 1996.

The Acid Rain Program's Phase II requirements for both SO₂ and NO_x became effective on January 1, 2000. The limits for Phase II affect more units and are more stringent than those under Phase I. EPA allocated SO₂ emission allowances (again based upon specific formulas) to

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all affected units above 25 megawatts in size with an allocation factor of 1.2 pounds of SO₂ per million Btus of heat input. The final Phase II NO_x rules set the limits for the three general boiler and burner types and designs owned and operated by Alabama Power at 0.46 pounds of NO_x per million Btus of heat input for wall-fired boilers, 0.40 pounds of NO_x per million Btus of heat input for tangentially-fired boilers, and 0.68 pounds of NO_x per million Btus of heat input for the more difficult to control cell burner-fired boilers. Alabama Power's compliance strategies for the Acid Rain Program NO_x limitations have included installing low-NO_x burner and combustion control technologies and selective catalytic reduction systems in conjunction with system-wide NO_x emission rate averaging plans.

AMBIENT AIR QUALITY STANDARDS

The major United States law driving federal air regulations is the Clean Air Act (CAA or "the Act"). The cornerstone of the CAA is the establishment and attainment of the National Ambient Air Quality Standards (NAAQS or "standards") for the following six pollutants: ozone, particulate matter, sulfur dioxide, lead, carbon monoxide and nitrogen dioxide. The CAA requires that EPA determine what concentration of each of these six specific pollutants in the ambient (i.e., outside) air is protective of human health and welfare within a margin of safety. Fossil-fired power plants emit some of these air pollutants directly, while some of these pollutants can also combine with other substances in the atmosphere to form "secondary" pollutants such as "fine" particulate matter and ozone.

Geographic areas where ambient levels of any of these pollutants exceed the NAAQS are designated as "nonattainment" areas. States that have nonattainment areas are required by the CAA to develop and implement State Implementation Plans (SIPs) that include emission control

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strategies designed to bring these areas into attainment with the NAAQS that are not being met. EPA must approve these SIPs, and if a state fails to adopt a SIP, EPA must promulgate a Federal Implementation Plan (FIP) in lieu of the SIP.

Once EPA sets a NAAQS for a pollutant, the CAA requires EPA to review the NAAQS every five years to determine if a revision is necessary. Since 1997, these reviews have resulted in multiple, significant changes to the ozone, lead, particulate matter, nitrogen dioxide, and sulfur dioxide NAAQS. The vast majority of costs for emission controls incurred by Alabama Power are attributable to the implementation of these increasingly stringent air quality standards.

1-Hour Ozone Standard

Historically, the most pervasive and difficult ambient air pollutant to reduce has been ozone, with many major urban areas across the country (including Birmingham) failing to meet the 1-hour ozone standard (0.12 parts per million or ppm) for many years. As discussed below, EPA established a more stringent 8-hour ozone standard in 1997, (the “1997 8-hour ozone standard”) and eventually revoked the 1-hour standard in June 2005 (the terms “1-hour” and “8-hour” refer to the time period over which the air quality monitor data is averaged). However, emission reduction regulations addressing the 1-hour ozone standard remain effective under the Alabama SIP for Birmingham ozone and affect two Alabama Power plants.

By way of background, Jefferson and Shelby Counties were originally classified as a 1-hour ozone nonattainment area by EPA on March 3, 1978. The CAAA of 1990 required most states with then existing 1-hour ozone nonattainment areas to submit by November 1994 revised SIPs that demonstrated attainment of the standard by their designated attainment year. Most affected states were unable to demonstrate attainment and could not submit revised SIPs by the deadline. EPA thus allowed states to delay the SIP submittals for approximately two years, provided states

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finalized plans for certain emission reduction mandates and agreed to participate in a collaborative effort to evaluate regional controls for NO_x emissions that could contribute to attainment of the ozone standard across an entire region, in this case the eastern United States.

The collaborative effort led to the formation of the Ozone Transport Assessment Group (OTAG), an organization of 37 states east of and bordering the Mississippi River, plus Texas, Kansas, Nebraska, Oklahoma and the Dakotas. OTAG evaluated certain regional NO_x and volatile organic compounds (VOC) controls and their potential for reducing ozone in the eastern United States. OTAG presented its final recommendations to EPA in June 1997. The final recommendations presaged EPA's Regional NO_x SIP Call rule, which required additional NO_x emission reductions for utilities and large industrial sources as a measure to address regional transport of this ozone precursor.

The CAAA of 1990 prescribed a 1-hour ozone standard attainment date of 1993 for the Birmingham ozone nonattainment area (Jefferson and Shelby Counties). Birmingham recorded air quality data that demonstrated attainment of the standard in 1993, and ADEM submitted a request to EPA in March 1995 to redesignate Birmingham to attainment for the 1-hour ozone NAAQS. However, before EPA acted on ADEM's request, Birmingham-area ozone monitors recorded ozone air quality data that violated the 1-hour standard. EPA subsequently denied ADEM's redesignation request in September 1997, and later in 2000 issued a "SIP Call" requiring Alabama to submit a plan that would provide for attainment of the 1-hour ozone standard in Birmingham. ADEM submitted a 1-hour ozone SIP in November 2000, and EPA approved the plan in November 2001. EPA allowed Alabama until May 2003 to enforce the SIP requirements needed to attain this ozone standard.

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ADEM's rules addressing the 1-hour ozone standard require Alabama Power Plants Gorgas and Miller to achieve a 0.21 pounds of NO_x per million Btus of heat input 30-day rolling average limit during the ozone season. To meet this mandate, Alabama Power installed, in addition to previously-installed controls, selective catalytic reduction (SCR) technology at Gorgas 10 and Miller 3-4, and combustion controls at other Gorgas units. (In 2005, SCRs were installed at Miller 1-2 for compliance with the NO_x Budget Trading Program, but these controls also contributed to compliance with the 1-hour ozone Alabama SIP requirements.)

On March 12, 2004, EPA approved the redesignation of the Birmingham ozone nonattainment area to 1-hour ozone attainment based on the air quality data recorded for the area from 2001-2003. Prior to this approval, the Sierra Club had initiated litigation in the United States Circuit Court of Appeals for the District of Columbia (D.C. Circuit) seeking higher (i.e., more punitive) nonattainment status for some areas across the country, including Birmingham. The D.C. Circuit concluded that EPA failed to exercise its duty to make a final ozone determination for classifying Birmingham (and other areas) by May 15, 1994, as prescribed by the CAAA of 1990. In November 2002, in response to the court's order, EPA determined that Birmingham did, in fact, attain the 1-hour ozone standard by November 15, 1993, the date required by the CAAA of 1990. Consequently, in 2002 Birmingham retroactively met the 1-hour standard as of 1993, and again achieved (and officially redesignated to attainment) the 1-hour standard in March 2004. Unfortunately, attainment was short lived, as in April 2004 Birmingham was designated ozone nonattainment for the more stringent 1997 8-hour ozone standard (discussed later).

NO_x Budget Trading Program

In September 1998, EPA issued the Regional NO_x SIP Call rule, which required 22 states (including Alabama) and the District of Columbia to submit SIPs addressing regional transport of the ozone precursor NO_x. The Regional NO_x SIP Call rule was a cap and trade program and

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was also referred to as the NO_x Budget Trading Program (NBP). The NBP required NO_x emission reductions sufficient to meet unique NO_x emission budgets specified for each affected state. The utility budgets were based upon projected electricity generation for 2007 (using EPA assumptions that underpredicted actual growth in some cases) and NO_x emissions at approximately 0.15 pounds of NO_x per million Btus of heat input for coal-fired units.

Final NBP SIPs were originally required by September 1999, with the final compliance deadline for utilities and large industrial sources set for May 1, 2003. However, the rule was challenged and in May 1999, the D.C. Circuit issued an order staying the September 1999 SIP submittal deadline until “further order of the court.” In March 2000, the court largely upheld the Regional NO_x SIP Call rule and cleared the way for EPA to implement the program. Even so, the court vacated the rule for Georgia, Missouri and Wisconsin, and EPA was required to submit a revised rule for the northern two-thirds of Georgia and the eastern half of Missouri. As part of its February 2002 proposal, EPA excluded the southern one-third of Alabama, along with the southern one-third of Georgia, because modeling results did not show an impact on any out-of-state nonattainment area from sources in these regions. As a result of further litigation and its final rule reconsiderations, EPA eventually rescinded the Regional NO_x SIP Call rule as applied to all of Georgia in April 2008.

The litigation before the D.C. Circuit resulted in an extension of the compliance date for utilities and large industrial sources from May 1, 2003 to May 31, 2004, for all remaining affected states. The Alabama NBP SIP rules were finalized in February 2001 and approved by EPA in July 2001. In addition to the SCRs installed to meet the ADEM 1-hour ozone standard requirements, Alabama Power installed SCRs at Miller 1-2 and Gaston 5 as well as combustion controls at

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Greene County 1-2 for compliance with the NBP. With the promulgation of the Clean Air Interstate Rule (discussed later), the NBP ended in 2008.

8-Hour Ozone Standards

On July 18, 1997, EPA promulgated new ambient air quality standards for ozone. Compared with the original 1-hour ozone standard, the 1997 8-hour ozone standard has a lower ozone concentration level (0.08 ppm vs. 0.12 ppm) and a longer averaging period (8 hours vs. 1 hour). The two standards also use different calculation methodologies to determine attainment. Attainment of the 8-hour standard is determined by the average of the fourth-highest concentration of each year measured over a 3-year period. The net effect of these changes is that the 1997 8-hour standard is significantly more stringent than the 1-hour standard.

On May 14, 1999, the D.C. Circuit remanded the 1997 8-hour ozone and particulate matter standards to EPA for reasons involving constitutionality, the nonattainment classification scheme, and ultraviolet-B (UVB) health “disbenefits.” EPA appealed the first of these two rulings to the United States Supreme Court. On February 27, 2001, the Supreme Court upheld the constitutionality of the standards, but rejected EPA’s implementation plan for the 1997 8-hour ozone standard and remanded the standard to the D.C. Circuit for further review. On March 26, 2002, the lower court dismissed all remaining challenges to the standard. On January 6, 2003, EPA published a final rule that responded to the court remands related to the beneficial effects of ozone in preventing UVB-induced skin cancers and cataracts. EPA determined that these effects were too uncertain to warrant a change to the standard.

In April 2004, EPA designated the Birmingham area (Jefferson and Shelby Counties) nonattainment for the 1997 8-hour ozone standard. The Birmingham nonattainment area was classified as a “Basic” nonattainment area, with an attainment deadline of June 15, 2009. The

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Alabama SIP containing 1997 8-hour ozone attainment demonstrations and control requirements for Birmingham was due June 15, 2007. However, ozone monitoring data for 2003-2005 showed that Birmingham was achieving the 1997 8-hour standard. ADEM requested that EPA redesignate the Birmingham area to ozone attainment based upon the most current air quality data. EPA approved the request, and the Birmingham area became attainment for the 1997 8-hour ozone standard effective June 12, 2006. This action eliminated the need for an 8-hour attainment SIP for Birmingham, but a Maintenance Plan was required under the CAA, and one was approved as part of the redesignation process. The Maintenance Plan demonstrates that the standard will continue to be met after attainment designation.

Subsequent to the EPA ozone attainment redesignation, a Birmingham area air quality monitor began recording violations of the 1997 8-hour standard. This event required ADEM to activate the Maintenance Plan in order to address the ozone monitor violations (i.e., ADEM must take actions to ensure the standard would again be attained). ADEM revised air permits for two industrial facilities, requiring additional NO_x emission reductions in order to satisfy Maintenance Plan provisions.

While many areas in the United States were still struggling to meet the 1997 8-hour ozone standard, EPA lowered the ozone standard once again. On March 27, 2008, EPA established the 2008 8-hour ozone standard, which increased the stringency of the 8-hour ozone standard from 0.08 ppm (effectively 0.084 ppm due to rounding) to 0.075 ppm. Legal challenges were filed by industry groups as well as the State of Mississippi, charging that the 2008 standard was overly stringent. On the other hand, numerous other states and environmental groups claimed that the 2008 standard was not stringent enough. The cases were consolidated as *Mississippi v. EPA* in the D.C. Circuit. The State of Alabama filed a motion to intervene in support of the petitioner

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State of Mississippi. Shortly after a change in the Administration, EPA requested the D.C. Circuit suspend briefing pending an EPA decision whether to reconsider the 2008 standard. The court granted this request in March 2009. In September 2009, EPA announced that it would reconsider the 2008 ozone standard. In January 2010, EPA proposed to increase the stringency of the standard by lowering the level from 0.075 ppm to a level in the range of 0.060 to 0.070 ppm. Such a revision would be expected to result in a large number of new nonattainment areas throughout the United States. Based on ozone monitoring data at the time, a level of 0.070 ppm was projected to result in 75 percent of monitored counties across the country being nonattainment, and a level of 0.060 ppm was projected to result in 96 percent of monitored counties being nonattainment. A more stringent ozone standard is likely to be a continuing driver for NO_x and VOC emission reductions in many areas of the country.

Area designations for the 2008 ozone standard were initially slated for March 2010. However, with the Administration's decision to reconsider the standard, EPA announced its intention to stay that process and finalize designations for a potentially revised ozone standard. On September 2, 2011, after numerous delays finalizing a revision, the President instructed EPA to withdraw its reconsideration of the 2008 ozone standard. EPA subsequently resumed implementation of the 2008 ozone standard of 75 ppb and finalized initial designations on April 30, 2012. No areas in Alabama were designated as nonattainment for the 2008 standard. Litigation of the 2008 standard, which had been held in abeyance, resumed as well. On July 23, 2013, the D.C. Circuit Court issued its opinion in the matter and denied the petitions for review by industry, state and environmental groups challenging the standard. The court did not require EPA to change the 2008 ozone standard. Subsequently, petitions were filed requesting United States Supreme Court review of the standard, and on September 29, 2014, the Supreme Court denied these petitions.

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EPA is continuing its next review of the ozone standard. When EPA missed its five-year deadline for reviewing the 2008 ozone standard for possible revision, environmental groups filed a lawsuit to force EPA to complete the review. On April 30, 2014 the United States District Court in Northern California ordered EPA to propose a rule by December 1, 2014 and issue a final rule by October 1, 2015. Based on current ozone monitoring data (2011 – 2013), a level of 0.070 ppm is projected to result in 50 percent of the monitored counties across the country being nonattainment, a level of 0.065 ppm is projected to result in 75 percent of monitored counties being nonattainment, and a level of 0.060 ppm is projected to result in 91 percent of monitored counties being nonattainment.

As indicated above, a more stringent ozone standard will likely result in more nonattainment areas in Alabama. In that event, ADEM would be required to develop SIPs that give reasonable assurance that the standard will be achieved in nonattainment areas. As in the past, the courts are expected to continue to play a significant role in the establishment of any new ozone standard and its implementation.

Fine Particle Standards

On July 18, 1997, EPA also promulgated new ambient air quality standards for fine particulate matter. Fine particulate matter is a general term used for a mixture of solid particles and liquid droplets in the air that have aerodynamic diameters less than 2.5 micrometers (PM_{2.5}). The 1997 standards established 24-hour and annual standards for PM_{2.5}. The 1997 PM_{2.5} standards were delayed by challenges in various courts, but were ultimately largely upheld. Specifically, as with the 1997 8-hour ozone standard, the D.C. Circuit remanded, on constitutional grounds, the 1997 PM_{2.5} standards to EPA for redevelopment. EPA appealed the decision to the Supreme Court, which upheld the constitutionality of the PM_{2.5} standards and returned the case to the D.C. Circuit for consideration of whether the levels of the standards properly reflect what

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is requisite (i.e., “sufficient, but not more than necessary”) to protect public health. On March 26, 2002, the lower court dismissed all remaining challenges to the 1997 PM_{2.5} standards.

In February 2004, ADEM recommended to EPA annual PM_{2.5} nonattainment areas in Alabama. After considering additional data, ADEM later amended its annual PM_{2.5} nonattainment area recommendation to include only Jefferson County, where air quality data showed the PM_{2.5} annual standard of 15 micrograms per cubic meter was not being met by only two of the county’s eight PM_{2.5} monitors (all areas in the state were meeting the 1997 24-hour standard). EPA disregarded ADEM’s recommendation and included all of Jefferson and Shelby Counties in the final nonattainment designations, which became effective April 5, 2005. Small areas of Walker and Jackson Counties that contain electric power generating plants were also designated nonattainment for the annual PM_{2.5} standard (Jackson County is part of the larger Chattanooga, Tennessee nonattainment area).

After extensive analysis, ADEM developed an annual PM_{2.5} attainment SIP for the Birmingham area and submitted it to EPA in May 2009. Primarily, ADEM’s SIP requires PM_{2.5} emission reductions from local facilities in the vicinity of the Birmingham air quality monitors that are violating the standard and relies on utility emission reductions realized from the Clean Air Interstate Rule (discussed below).

On September 21, 2006, EPA issued a revision to the PM_{2.5} standards. With this action, EPA retained the current annual standard, while lowering the 24-hour PM_{2.5} standard by nearly 50 percent (from 65 to 35 micrograms per cubic meter). On October 8, 2009, EPA issued final area designations for the 2006 24-hour PM_{2.5} standard. The Birmingham area was designated nonattainment for this standard with the geographic footprint identical to the annual PM_{2.5}

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standard nonattainment area (i.e., Jefferson, Shelby and part of Walker Counties). ADEM's SIP, which was designed to bring the area into attainment with the 2006 24-hour PM_{2.5} standard, was expected to be due to EPA by December 2012. However, air quality data from 2007-2009 showed attainment of the 24-hour standard of 35 micrograms per cubic meter. Accordingly, ADEM prepared and submitted to EPA in April 2010 a 24-hour PM_{2.5} Redesignation Request and Maintenance Demonstration for Birmingham. In a final action in September 2010, EPA determined that the Birmingham area had indeed attained the 2006 24-hour PM_{2.5} standard; however, EPA did not officially redesignate Birmingham to attainment or approve the Maintenance Plan. Similarly, air quality data for the 2008-2010 period showed that the Birmingham area was also meeting the 1997 annual PM_{2.5} standard of 15 microgram per cubic meter. ADEM requested redesignation for that standard in March 2011. On June 29, 2011, EPA determined that the Birmingham area had attained the 1997 annual PM_{2.5} standard, but similar to its action in September 2010, the agency did not redesignate Birmingham to attainment. These EPA determinations suspend the requirements for ADEM to submit an attainment demonstration and other SIP elements as long as Birmingham continues to meet the standard. However, the most burdensome and punitive requirements of nonattainment are not relieved for regulated sources until redesignation to attainment is finalized by EPA. On November 10, 2011, EPA proposed to redesignate the Birmingham area to attainment for both the 24-hour and the annual PM_{2.5} standards. On January 22, 2013, EPA published the final rule redesignating the Birmingham area to attainment for the 1997 annual PM_{2.5} NAAQS. And on January 25, 2013, EPA published the final rule redesignating the Birmingham area to attainment for the 2006 24-hour PM_{2.5} NAAQS.

Litigation of the 2006 PM_{2.5} standards was initiated in the D.C. Circuit. Numerous states and environmental groups challenged the levels of the standard, specifically claiming that EPA

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should have increased the stringency of the annual standard. In February 2009, the court found that EPA inadequately explained its actions concerning the 2006 24-hour PM_{2.5} standard and remanded to EPA its decision to retain the annual standard. EPA announced plans to accelerate the typical five year NAAQS review cycle for the PM standards. Subsequently, on June 29, 2012, EPA proposed to revise the annual PM_{2.5} standard with a more stringent standard. On December 14, 2012, EPA finalized revisions to the NAAQS for PM_{2.5}, lowering the annual standard to 12 micrograms per cubic meter while leaving 24-hour standard unchanged.

In March 2013, several industries filed petitions for judicial review of the new 2012 PM_{2.5} standards. Oral arguments were heard in the D.C. Circuit on February 20, 2014. The court issued its opinion on May 9, 2014, upholding EPA's 2012 PM NAAQS.

In an April 16, 2013 memorandum, EPA informed states that their recommendations for areas that do not meet the new 2012 PM_{2.5} standard are due to EPA by December 13, 2013, and EPA intends to finalize the designations by December 13, 2014. EPA also indicated that areas not meeting the standard will have six years after designation to come into attainment. With EPA's concurrence, ADEM did not submit its recommendations by December 13, 2013 in order to incorporate 2013 air quality data in its recommendation. Accordingly, on March 3, 2014, the State of Alabama recommended to EPA that all counties in Alabama be designated as attainment for the 2012 annual PM NAAQS. On August 19, 2014, EPA told Alabama it intends to designate all of the state as "unclassifiable/attainment" except for the Phenix City area in Russell County. EPA's reasoning is that Phenix City is part of the metropolitan area that includes Columbus, Georgia, and the Georgia monitor had insufficient data to make a determination. EPA intends to "defer" the designation for Columbus-Phenix City for one year to allow time for

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adequate air quality monitoring needed for a designation. EPA intends to promulgate final PM_{2.5} designations in December 2014 for all non-deferred areas.

Clean Air Interstate Rule

EPA signed the Clean Air Interstate Rule (CAIR) on March 10, 2005. The rule required major reductions – far beyond those required by the Acid Rain Program – of SO₂ and NO_x emissions to address the transport of emissions in the eastern United States that significantly interfere with attainment of the PM_{2.5} and ozone standards in downwind states.

Implementation of the emission reductions from CAIR involved two phases. The first phase of NO_x compliance began on January 1, 2009, and called for an approximate 50 percent reduction from 2003 NO_x emissions in CAIR affected states. The first phase of SO₂ compliance began on January 1, 2010, requiring an approximate 50 percent further reduction in SO₂ emissions. The second phase of NO_x and SO₂ compliance is set to begin in 2015 and requires an approximate 65 percent reduction in NO_x and 70 percent reduction in SO₂ from 2003 emissions or allocations. For affected states, CAIR set permanent caps on emissions and provided for annual SO₂, annual NO_x, and seasonal NO_x allowance trading programs. CAIR leveraged off of the Acid Rain Program by discounting SO₂ allowances for sources in CAIR affected states to achieve the desired reductions. Further, each affected State was given a NO_x “budget” to meet. The State determines whether to allow participation in the allowance trading programs for NO_x and the method for allocating its NO_x allowances to its affected sources. ADEM initially submitted the Alabama CAIR SIP rules to EPA for approval in September 2006. ADEM submitted CAIR SIP updates in November 2006 and March 2007 to comply with EPA revisions to the federal rule. EPA approved Alabama’s CAIR SIP in October 2007.

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Various states and regulated industries filed petitions challenging particular aspects of CAIR in the D.C. Circuit. In July 2008, the court vacated CAIR in its entirety, and remanded it to EPA for further action consistent with its opinion. The court stated that EPA's CAIR approach "is fundamentally flawed" and directed EPA to redo its analysis "from the ground up" citing foundational problems with basic aspects of the rule such as trading, maintenance of NAAQS, compliance deadlines, and leveraging off of Acid Rain Program allowances.

In response to an EPA petition for rehearing of the CAIR vacatur, the court requested briefs from petitioners and EPA regarding harms to the public health that would be caused by vacatur of CAIR. In December 2009, upon consideration of these briefs, the court decided to remand CAIR without vacatur, thereby leaving the rule and its compliance obligations in place until replaced by a new rule developed under remand. Therefore, compliance with the NO_x and SO₂ elements of CAIR began on January 1, 2009, and January 1, 2010, respectively, as specified in the original EPA rule. Subsequent to the remand decision, EPA stated that it intended to propose a CAIR replacement rule in early 2010 and finalize that rule in early 2011. The "on, off, and back on again" CAIR, coupled with an unknown (at the time) CAIR replacement rule, was a significant complicating factor for Alabama Power in compliance planning – especially considering the long lead times that many emission control projects require. In addition, emission reductions realized from CAIR were being relied on by ADEM in the Birmingham annual and 24-hour PM_{2.5} SIPs and the Clean Air Visibility Rule (discussed in the next section).

CAIR was also the basis for EPA's denial of North Carolina's CAA Section 126 petition, which called for EPA to require thirteen states to reduce NO_x and SO₂ emissions to assist North Carolina in achieving and maintaining ozone and PM_{2.5} standards. Section 126 of the CAA allows for a state that believes it is significantly impacted by emissions from other states to have

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EPA require emission reductions from sources in those impacting states. North Carolina's Section 126 petition is being litigated in a separate proceeding in the D.C. Circuit with Alabama being one of the named states alleged to impact North Carolina's air quality. The absence of CAIR could have a major bearing on this litigation. In fact, the D.C. Circuit specifically pointed out the Section 126 option for states in its CAIR decision. Conceding that the court's decisions regarding CAIR have eliminated or fundamentally changed the legal basis for EPA's denial of North Carolina's petition, EPA asked the court to allow it to reconsider its denial. In March 2009, the court agreed that a remand to EPA for reconsideration was in order in light of the remand of CAIR. The court did not set a deadline for EPA to act, but stated that EPA's reconsideration should be "expeditious." There has been no further action from EPA to date, and this issue has not been completely resolved.

The Company has installed scrubbers at Plants Barry, Gaston, Gorgas and Miller, with the SO₂ emission reductions from these scrubbers intended not only to meet CAIR (and its replacement) and other programs (such as the Acid Rain Program), but also to address local attainment of the PM_{2.5} standards. The Company has also installed SCRs on its largest coal-fired units. Future requirements will dictate if or when additional scrubbers and/or SCRs will be installed.

Cross-State Air Pollution Rule

On July 6, 2010, EPA signed a new proposed Transport Rule – the replacement rule for CAIR. EPA proposed one approach and received comments on two alternatives. All three approaches set an emissions limit (or budget) for each affected state and sought to obtain SO₂ and NO_x emission reductions from power plants in 31 eastern states. Compliance would begin in 2012 and become more stringent in 2014. Under EPA's "preferred" approach, unlimited interstate trading (for three allowance programs: annual SO₂, annual NO_x and seasonal NO_x) would be

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allowed in 2012 and 2013, but would become limited in 2014. EPA intended to propose a second Transport Rule in 2011 to address new, more stringent NAAQS.

On July 7, 2011, EPA finalized the Transport Rule with a new name, the Cross-State Air Pollution Rule (CSAPR). CSAPR was designed to reduce PM_{2.5} and ozone levels in ambient air across a wide region. SO₂ and NO_x react in the atmosphere to form PM_{2.5}, and NO_x and VOCs react in the atmosphere to form ozone. These compounds can be transported long distances, thereby impacting downwind areas' ability to meet these NAAQS.

CSAPR was intended to replace CAIR in its entirety in response to the 2008 remand of the CAIR rule by the D.C. Circuit. According to EPA, CSAPR affected 3,632 electric generating units at 1,074 coal-, gas-, and oil-fired facilities in 28 eastern states. CSAPR set state budgets (i.e., emission limits) and allowed intrastate allowance trading, but only very limited interstate trading (although EPA delayed restrictions on interstate trading until 2014). As in the case with CAIR, there were three separate allowance programs affecting Alabama: annual SO₂, annual NO_x and seasonal NO_x. (Not all states are affected by all allowance programs.) Compliance with the first phase of CSAPR was scheduled to begin on January 1, 2012. However, on December 30, 2011, less than 48 hours before compliance was set to begin, the D.C. Circuit issued a stay of CSAPR and ordered EPA to continue to administer CAIR while CSAPR was stayed. On August 21, 2012, the D.C. Circuit vacated CSAPR, holding that CSAPR exceeded EPA's statutory authority by requiring upwind states to reduce emissions by more than their own significant contribution to nonattainment in other states and failing to allow states the initial opportunity to implement, through SIPs, the emission reductions required by EPA in CSAPR. The court directed EPA to continue to administer CAIR pending completion of a rulemaking to replace CSAPR with a valid rule. EPA petitioned the court on October 5, 2012 for rehearing en banc (consideration of the

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case by the full D.C. Circuit, rather than a three-judge panel). On January 24, 2013, the D.C. Circuit Court denied petitions for rehearing of the August 21, 2012 vacatur decision. On March 29, 2013, EPA filed a petition to the U.S. Supreme Court requesting review of the vacatur, and on April 29, 2014, the court reversed the D.C. Circuit's decision vacating CSAPR and remanded to the D.C. Circuit for further proceedings. On October 23, 2014, the D.C. Circuit lifted the 2011 stay of CSAPR. Pending resolution of the merits, in light of the lifting of the stay, CSAPR's Phase I compliance requirements will begin on January 1, 2015. The Court also established a briefing and oral argument schedule that will likely result in a ruling on the merits in the fall of 2015.

The installation by Alabama Power of SCRs and scrubbers has helped to ensure compliance with the continued administration of CAIR and will help ensure compliance with CSAPR or any subsequent transport rule EPA promulgates to replace CAIR and CSAPR. Although somewhat hampered by the regulatory uncertainty associated with multiple overlapping and rapidly evolving regulations, along with the protracted litigation, the Company has continued to evaluate its remaining smaller fossil fuel-fired electric generating units for possible additional emission controls, conversion to other fuels, and/or retirement/replacement.

NO₂ Standards

In February 2010, EPA issued a final rule that revises the NAAQS for Nitrogen Dioxide (NO₂). EPA retained the existing annual standard of 53 ppb and added a new 1-hour standard of 100 ppb. The rule requires new roadside ambient air quality monitoring in urban areas with populations greater than 500,000. While EPA's intention is to focus on mobile source emissions near major roadways, the new standard could also affect other sources of NO_x emissions. In June 2010, EPA provided guidance for air quality modeling assessments associated with the new standard. This guidance specifies the use of unusually conservative (stringent) procedures,

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particularly in the permitting of new or modified sources. In February 2012, EPA designated all areas of the country as “unclassifiable/attainment.” Petitions for reconsideration and legal challenges of the final rule were filed in the D.C. Circuit. On July 17, 2012, the D.C. Circuit upheld the revised NO₂ standards and more recently, the Supreme Court denied review of the decision, effectively ending litigation. On March 7, 2013, EPA finalized a rule revising the deadlines by which states are required to establish near-road air quality monitors.

SO₂ Standards

In June 2010, EPA issued another final rule that revises the NAAQS for Sulfur Dioxide (SO₂). EPA established a new 1-hour standard of 75 ppb and revoked the existing 24-hour and annual standards (effective one year after final area designations for the new standard). The new standard would be implemented through a combination of air quality monitoring and computer modeling, deviating from the traditional method of establishing attainment based only on air monitoring data. In June 2011, ADEM recommended to EPA that all areas in Alabama be designated “unclassifiable” with respect to this standard. EPA did take stakeholder input on a provision of the rule that requires major SO₂ sources (including all Alabama Power coal-fired power plants) to be modeled and has delayed attainment designations. (This new standard would make it increasingly difficult to operate coal-fired electric generating units without low sulfur coal or scrubbers that reduce SO₂ emissions.) Numerous states, industries and groups challenged the SO₂ NAAQS rule, but on July 20, 2012, the D.C. Circuit upheld the revised SO₂ standard. On July 25, 2013, EPA designated 29 areas in 16 states as “nonattainment” for the 2010 SO₂ standard. No areas in Alabama were designated in this round of designations. Environmental groups filed suit in the Northern District of California Circuit Court over EPA’s failure to complete designations for the entire country by the CAA statutory deadline. On December 6, 2013, the court found liability based on an EPA concession that it had failed to meet the deadline. On June 2, 2014, EPA proposed a consent decree in the *Federal Register* that had been

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negotiated with environmental groups. The consent decree as proposed would add an additional round of designations for large SO₂ sources and would accelerate EPA's original designation schedule. Several states filed comments opposing the proposed consent decree including Alabama and filed motions and supporting briefs. The court is considering these positions. On April 17, 2014, EPA proposed a "data requirements rule," which outlines options and requirements for states to submit either monitoring or modeling data to support future designations. Comments on the proposed rule were due on July 14, 2014, and EPA is presently evaluating them.

CLEAN AIR VISIBILITY RULE

The Clean Air Visibility Rule (CAVR) (formerly called the Regional Haze Rule) was finalized in July 2005. The goal of this rule is to restore natural visibility conditions in specified "Class I" areas (primarily national parks and wilderness areas) by 2064. The rule involves (1) the application of Best Available Retrofit Technology (BART) to certain sources built between 1962 and 1977, and (2) the application of any additional emissions reductions that may be deemed necessary for each designated area to achieve "reasonable progress" toward the goal of natural conditions. Progress toward the natural visibility goal is assessed every ten years. For each of these ten-year planning periods, additional emissions reductions will be required for continuing progress in each Class I area during that period unless states demonstrate that additional measures are not needed or are not reasonable.

The BART application of CAVR is an element of the first planning period only. Among other criteria, a BART analysis and determination must consider the costs to the source and the source-specific visibility benefits from the application of BART. Under CAVR, states have the

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regulatory prerogative to determine whether CAIR is equivalent to BART for SO₂ and NO_x for electric generating units. In other words, CAIR-affected units would potentially not have to go through a BART analysis for SO₂ and NO_x for visibility impairment as it pertains to this rule. ADEM made the decision that CAIR is equivalent to BART for CAIR-affected units in Alabama. Therefore, for its named units, Alabama Power submitted BART analyses for particulate matter – the remaining visibility impairing pollutant in addition to NO_x and SO₂.

Under the rules, ten Alabama Power coal-fired units were declared BART-eligible and required to undergo a BART analysis. The named units are Barry 4-5, Gaston 5, Gorgas 10, Greene County 1-2 and Miller 1-4. Alabama Power performed the required extensive BART analyses for particulate matter and submitted the analyses to regulatory agencies in August 2006. The results showed that none of the Alabama Power units meet the thresholds for causing or contributing to visibility impairment from particulate matter emissions in any Class I area.

In 2008, ADEM submitted to EPA Alabama's first CAVR SIP, with subsequent SIPs scheduled for 2018, 2028, 2038, 2048 and 2058 to EPA. In July 2013, ADEM submitted to EPA a five-year progress review which concluded no revisions to the Alabama CAVR SIP are necessary at this time. In 2012, EPA partially approved Alabama's SIP and disapproved the parts that rely on the vacated CAIR rule. Any revisions to Alabama's CAVR SIP regarding CAIR are unlikely until CSAPR remand proceedings are resolved.

HAZARDOUS AIR POLLUTANTS / MERCURY

The CAAA of 1990 directed EPA to conduct the following two studies addressing hazardous air pollutants (HAPs) related to power plants:

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- Emissions and health and environmental effects of mercury releases from all sources (“mercury study”)
- Hazards to public health resulting from utility emissions of HAPs (“utility study”)

EPA released the results of the mercury study and the utility study on December 19, 1997, and February 25, 1998, respectively. In both studies, EPA found that mercury from electric power plants is the HAP of greatest concern. Despite uncertainty in the science of mercury emissions, transport and health effects, EPA found that coal-fired power plants are the largest remaining unregulated man-made source of mercury in the United States, even though these power plants contribute about only one percent to global mercury emissions.

The Clean Air Mercury Rule (CAMR) was issued by EPA on March 15, 2005. The rule was issued as a cap-and-trade program for the reduction of mercury emissions from coal-fired power plants. CAMR was to be implemented in two phases – 2010 and 2018 – and provided for an emissions allowance trading market. In the first phase, the national cap on utility industry mercury emissions would be set at 38 tons (approximately a 30% reduction); in the second phase, the cap would be lowered to 15 tons (approximately a 70% reduction). The majority of reductions required for the first phase were expected to be met through co-benefits from the implementation of scrubber and SCR systems for the control of SO₂ and NO_x under CAIR. ADEM submitted Alabama’s CAMR SIP in November 2006, which EPA approved in October 2007.

A number of states and environmental groups filed petitions, primarily challenging the proper source of EPA’s authority to regulate mercury under the CAA. The petitioners alleged that mercury should be regulated under the “maximum achievable control technology” (MACT)

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provision of the CAA. EPA reconsidered this issue and in October 2005 decided MACT-based regulation for mercury was not “appropriate and necessary.” In February 2008, the D.C. Circuit vacated CAMR and EPA’s concurrent rule to “delist” electric generating units (EGUs) from those CAA provisions requiring application of MACT. The vacatur became effective with the issuance of the court’s mandate in March 2008, thus nullifying CAMR mercury emission control obligations and monitoring requirements. EPA and the industry petitions for rehearing were denied in May 2008. Petitions for Supreme Court review were filed by industry groups and EPA in September and October 2008, respectively. EPA withdrew its petition on February 6, 2009, and the Court denied the industry petition on February 23, 2009. EPA settled that litigation and entered a consent decree to sign a proposed rule by March 16, 2011 and a final rule by November 16, 2011 to determine MACT requirements for EGUs. The consent decree deadline for a final rule was subsequently extended to December 16, 2011.

In January 2010, Alabama Power received an Information Collection Request (ICR) from EPA that was intended to help develop MACT emission limits for HAPs under the new rule. Alabama Power submitted its ICR response and emission test results in 2010. EPA analyzed the ICR responses from all utilities during the remainder of 2010 and proposed the Utility MACT rule on March 16, 2011. On December 16, 2011, EPA signed the final Utility MACT rule known as the Mercury and Air Toxics Standards (MATS) rule. The MATS rule establishes stringent emission limits for mercury, filterable particulate matter as a surrogate for non-mercury metallic HAPs, and hydrochloric acid (HCl) as a surrogate for acid gas HAPs. For organics, the MATS rule establishes a work practice standard requiring the implementation of a periodic tune-up and inspection program. The compliance requirements of the MATS rule are much more onerous for Alabama Power as compared to CAMR’s cap-and-trade program. Compliance with the rule requires the utilization of a variety of control technologies (e.g., SCRs, scrubbers,

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electrostatic precipitators, baghouses, dry sorbent injection, activated carbon and/or other chemical additives) in order to meet the required limits. Compliance with the rule for existing sources would begin three years from the effective date of the final rule (April 16, 2015), unless a compliance extension is granted. EPA received several petitions to reconsider aspects of the rule. On December 10, 2013, the D.C. Circuit heard oral arguments in the MATS case. On April 15, 2014, the court issued its opinion, denying all petitioners' challenges to the MATS rule. On July 14, 2014, several petitions were filed with the U.S. Supreme Court seeking review of the D.C. Circuit's decision. The state of Alabama is a participant on one of these petitions along with 20 other states. Those petitions remain pending.

Following the CAMR vacatur, Alabama Power continued to install and operate continuous mercury monitoring systems. Completion of these installations has enabled Alabama Power to gain useful experience with this new monitoring technology. This experience allowed the Company to gather valuable information on actual mercury emissions in order to participate meaningfully in the MATS rulemaking as well as to plan more effectively for future mercury control compliance strategies.

In addition, Alabama Power has conducted research on mercury control technologies, such as the activated carbon injection with compact hybrid particulate collector (COHPAC) demonstration at Plant Gaston and the addition of chemical additives to aid in the control of mercury emissions. In addition, Southern Company has established the Mercury Research Center in Pensacola, Florida, the goal of which is to advance the development of technologies that reduce mercury emissions from coal-fired power boilers.

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The Company has developed and continuously updates a comprehensive environmental compliance strategy to assess compliance obligations associated with the current and proposed environmental requirements. As part of this strategy, the Company is implementing its compliance plan for the MATS rule which includes reliance on existing emission control technologies (e.g., co-benefits from SCRs and scrubbers), construction of baghouses to provide an additional level of control on the emissions of mercury and particulates from certain generating units, use of additives or other injection technology, use of existing or additional natural gas capability, and upgrades to certain transmission facilities.

CLIMATE CHANGE

Over the past several years, the U.S. Congress has considered many legislative proposals that would reduce emissions of greenhouse gases (GHG) and/or mandate generation of electricity from renewable energy sources. Analysis of these congressional bills has shown that they would be very costly to Alabama Power and its customers.

In 2011, Congress proposed several bills that would suspend or remove EPA's authority to regulate GHGs under the CAA. For example, the Energy Tax Prevention Act of 2011, introduced in both the House and the Senate, would have removed EPA's authority to regulate GHGs under the CAA. The EPA Stationary Source Regulations Suspension Act would have delayed stationary source permitting for two years. It is uncertain whether any such future legislation introduced in Congress will be enacted.

In April 2007, the Supreme Court ruled that EPA has authority under the current CAA to regulate GHG emissions from new motor vehicles. In response to this decision, EPA finalized

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an endangerment finding (a prerequisite for regulation) for GHG emissions from mobile sources in December 2009. The finding concluded that six GHGs in the atmosphere (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) threaten both public health and welfare. It also found that emissions from new motor vehicles and motor vehicle engines contribute to the atmospheric concentrations of these GHGs and thus to the threat of climate change. In March 2010, EPA finalized an interpretation of its stationary source rules which specified that once GHGs are regulated under any part of the CAA, then GHG emissions from new and modified sources will become “regulated pollutants” under the CAA. In April 2010, EPA (in a joint rulemaking with the National Highway Traffic Safety Administration) finalized new motor vehicle emission standards for the following GHGs: carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons. These standards became effective on January 2, 2011, the first date that 2012 model-year vehicles could be sold. Accordingly, GHGs became “regulated pollutants” under the CAA on January 2, 2011, subjecting new and significantly modified stationary sources that emit certain quantities of GHGs to undergo a Best Available Control Technology (BACT) review for control of GHG. In an attempt to reduce the number of sources that would be required to obtain permits and the administrative burden that would ensue if Prevention of Significant Deterioration (PSD) permitting and Title V requirements were triggered for GHGs at the current program thresholds of 100/250 tons per year, EPA finalized a GHG “tailoring rule” on May 13, 2010. The tailoring rule increased the major source emission thresholds for the PSD and Title V programs to 100,000 tons of CO₂ equivalent per year. The rule also increased the significance level for major modifications under the PSD program to 75,000 tons of CO₂ equivalent per year. In July 2011, EPA finalized a rule that deferred, for a period of three years, GHG permitting requirements for CO₂ emissions from biomass and other biogenic sources under the PSD and Title V programs. On July 12, 2013, the D.C. Circuit Court vacated this three-year deferral, but on October 15, 2013, the Supreme Court

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agreed to hear argument on the basic question of whether new GHGs rules for mobile sources could trigger permitting requirements for stationary sources. On February 24, 2014, the Supreme Court heard oral arguments, and on June 23, 2014, the court ruled that EPA lacked the authority to require air permits from facilities based solely on their GHG emissions. It affirmed, however, that EPA can regulate GHG emissions from sources when those sources become subject to PSD requirements due to their emissions of conventional pollutants. The decision invalidated several elements of EPA rules that must be addressed by the EPA and the D.C. Circuit Court. On July 24, 2014, EPA issued guidance outlining its views on how to implement the U.S. Supreme Court's decision.

EPA also finalized its GHG Reporting Program on September 22, 2009, which requires annual reporting of GHGs. Alabama Power is fulfilling all monitoring, recordkeeping, and reporting requirements necessary to comply with this rule.

On April 13, 2012, EPA published its proposed Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units in the *Federal Register*. Had this rule been finalized as proposed, it would have effectively eliminated the development of any new coal-fired electric generating units without carbon capture and storage capability. Although this rule was not going to apply directly to existing units, EPA was planning to issue guidance to states to develop GHG standards for existing sources. However, states or courts could determine that the standard for new sources is relevant when establishing BACT for permitting modifications to existing sources.

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On June 25, 2013, the President released a memorandum for the Administrator of the EPA, “Power Sector Carbon Pollution Standards,” detailing a new regulatory timeline for GHG regulations. The President’s memorandum directed EPA to take the following actions:

- Re-propose the GHG performance standards for new sources by September 20, 2013, and finalize these standards in a “timely fashion.” The Clean Air Act requires EPA to finalize such regulations within one year after the proposal date.
- Propose GHG standards, regulations, or guidelines for modified, reconstructed, and existing sources by June 1, 2014 and finalize these requirements by June 1, 2015.
- Include in the guidelines addressing existing sources a requirement that States submit to EPA implementation plans by June 30, 2016.

In order to fulfill these Presidential directives, on September 20, 2013, EPA proposed GHG emission performance standards for new electric generating units. The proposed standards are 1,000 pounds of CO₂ per MWH for natural gas-fired units greater than 850 mmBtu/hr and 1,100 pounds of CO₂ per MWH for natural gas-fired units less than 850 mmBtu/hr and for new coal-fired units. The proposal does not apply to oil-fired or biomass-fired electric generating units or simple cycle units that sell less than one-third of their potential output. On January 8, 2014, nearly four months after the EPA Administrator signed the proposed rule, EPA published in the *Federal Register* the GHG emission performance standards for new electric generating units. Even with the unusually lengthy delay in publication, EPA did not make any significant changes to the proposed rule in the interim period. In a companion action, the EPA withdrew its GHG

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emission performance standards for new electric generation units which had been published on April 13, 2012.

In order to fulfill the next element of the Presidential directives, on June 18, 2014, EPA published in the *Federal Register* GHG emission performance standards for existing electric generating units. These proposed regulations seek to reduce carbon emissions from existing power plants 30% below 2005 levels by 2030. Interim state-specific emissions goals must be met between 2020 and 2029, and a final state goal must be met in 2030 and thereafter. EPA used four “building blocks” to establish state emissions goals: 1) improvements in plant efficiency; 2) increased dispatch of natural gas units; 3) expansion of renewables and nuclear energy; and 4) increases in demand-side efficiency. EPA is scheduled to finalize the rule in June 2015 with state plans due in June 2016 with the possibility of extensions. EPA also proposed GHG standards for modified and reconstructed sources ranging from 1,000 pounds of CO₂ per MWH to 2,100 pounds of CO₂ per MWH depending on the type and size of the affected electric generating unit.

The ultimate impact of these regulations will depend on the scope and specific requirements of the final rules and the outcome of any legal challenges, and thus cannot be determined at this time.

WATER INITIATIVES

Steam Electric Effluent Guidelines Revisions

In October 2009, EPA announced its plans to commence a rulemaking to revise the technology-based rules for steam electric plants. On October 15, 2010, Alabama Power submitted a

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response to the EPA's Steam Electric Power Generating Effluent Guidelines ICR for all Alabama Power coal and combined cycle gas plants. In May 2013, EPA issued draft effluent guidelines for comment. The rules were difficult to discern, as EPA proposed eight "options" but designated four as "preferred options." As expected, EPA proposed changes that will result in new compliance obligations and requirements, as well as capital expenditures. Most of the options would require dry ash handling, high levels of treatment for flue gas desulfurization wastewater, treatment of non-chemical metal cleaning wastes, and restrictions on the flow and reuse of plant water. On September 20, 2013, Alabama Power filed extensive comments on the draft guidelines with EPA. EPA is currently obligated to publish a final rule in September 2015. Municipal water suppliers have to meet very low levels of halide compounds in drinking water. Studies are now underway to evaluate the levels of residual bromine (which is a halide compound) following its use in wet scrubbers for purposes of enhancing mercury capture.

Potential Changes to Wet Ash Sluicing

Currently, most process water at coal-fired plants is treated and discharged from the ash ponds. If proposed ash regulations change the way these ponds may be used, there will be significant costs associated with new water treatment systems.

Clean Water Act (CWA) Section 316(a)

A focus on thermal issues has arisen due to EPA's renewed aggressive involvement in the permitting process. Several Alabama Power fossil plants have thermal discharge limits for the months of June through September, and Plants Barry and Gadsden have year-round thermal limits. In the past, state regulators have accepted thermal studies conducted in the 1970s based on the fact that thermal operations have not changed since the initial studies and those studies

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indicated no appreciable harm. However, EPA is now obligating state permitting agencies to require permittees to conduct additional studies during the five year permit cycle to substantiate that no changes have occurred. Alabama Power has updated thermal studies at all of its impacted plants and submitted them to ADEM along with requests for National Pollutant Discharge Elimination System (NPDES) permit renewals. ADEM has reviewed these studies and has indicated that the Company meets the tests for a continuation of its variances under 316(a). Accordingly, Alabama Power expects to continue to operate its plants in their current configuration.

CWA Section 303(d)

On July 13, 2000, a rule was issued to revise regulations under CWA Section 303(d) addressing total maximum daily loads (TMDLs) for certain pollutants. The TMDL rule requires the states to:

- Reduce pollutant loadings to impaired waters.
- Manage new pollutant loadings.
- Maintain a cap on the pollutant loadings that will allow the impaired water to meet water quality standards.

Economic growth and site selection of new power generation facilities in areas surrounding impaired waters may be limited as a result of TMDL development and implementation. With respect to existing facilities, evaluations of the implications of these TMDLs are underway. Regulatory agencies are continuing to propose a number of other initiatives related to water quality standards, sediments, analytical procedures, and wetlands, as well as NPDES permitting procedural issues. These proposals have the potential to impose additional restrictions on Company operations.

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To date, several TMDLs have been implemented that may impact Company operations. These include the Weiss Reservoir (in December 2004), and the Logan Martin, Neely Henry, Lay and Mitchell Reservoirs in October 2008. The TMDL for Lay Reservoir includes a limit for phosphorous that caused ADEM to lower the NPDES permit for Plant Gaston. The new lower limit is not expected to impact plant operations at the current time. The proposed TMDL for mercury in a segment of the Mobile River downstream of Plant Barry is increasing Alabama Power's permit monitoring requirement and may impact the cost of treatment there. Where streams are TMDL listed for siltation (such as the Cahaba River in portions of Jefferson County), ADEM registration of nearby construction stormwater projects is more stringent and may slow or increase the cost of constructing company facilities. There is the possibility other future TMDLs will have impacts on Company facilities.

CWA Section 316(b)

Section 316(b) requires that “the location, design, construction and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact.” In 1976, EPA published a final regulation implementing this requirement. Industry groups challenged the regulation, and the U.S. Court of Appeals for the Fourth Circuit remanded on the basis of certain procedural errors made in 1977. In 1995, EPA entered into a consent decree with the Hudson Riverkeeper and a coalition of other individuals and environmental groups and committed to complete a Section 316(b) rule by August 2001.

After a series of rulemakings and court cases extending all the way to the Supreme Court, a final rule was published in the Federal Register on August 15, 2014. The rule in general gives state directors (ADEM) flexibility to set requirements at each power plant. Options could range from

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obtaining an exemption up to installing closed cycle cooling towers. One common outcome will likely be installation of “fish friendly” traveling screens and fish return troughs.

One aspect of the rule requires state permitting authorities to transmit all 316(b) NPDES permit applications to the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service for review prior to proposing or publishing a draft permit, and then again prior to finalization. Based on the recommendations of these agencies, EPA has pledged to object to the issuance of any permit that would endanger threatened or endangered species or their critical habitat and will prohibit state permitting agencies from issuing permits over such objections. A collection of industry and environmental organizations filed legal challenges on several aspects of the new final rule. These lawsuits were recently consolidated in the Fourth Circuit Court of Appeals and will likely delay the enumerated compliance deadline in the current rule.

Pesticide Application Permits

On January 7, 2009, the Sixth Circuit Court of Appeals struck down a rule issued by EPA in 2006 regarding the application of aquatic pesticides. The court held that CWA permits are required for pesticide applications “in, over, or near” waters of the United States. For purposes of this ruling, pesticides include herbicides used in vegetation control. Alabama Power holds a permit to cover the application of hydro reservoir vector and nuisance vegetation control. Other pesticide spraying, primarily for transmission rights of way, will be performed by contract applicators that hold their own permits.

CWA Section 404

Section 404 gives the Secretary of the Army, through the Army Corps of Engineers, authority to permit the dredging from or filling of material into wetlands deemed waters of the United States. This authorization may be received through Nationwide General Permits or the issuance of

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Individual Permits. Construction of transmission lines, substations, power plants and environmental control facilities may require the dredging or filling in of wetlands. Significant impacts to wetlands must be mitigated in kind. A “mitigation bank” is a wetland, stream, or other aquatic resource area that has been restored, established, enhanced, or (in certain circumstances) preserved for the purpose of providing compensation for unavoidable impacts to aquatic resources permitted under Section 404. In order to accomplish this, Alabama Power is actively pursuing the creation of a wetland mitigation bank system within the state to more economically handle mitigation requirements.

From time to time, EPA and the Corps of Engineers have indicated their intent to revisit the scope of their Section 404 authority following the Supreme Court’s decision in *Rapanos v. United States*, 126 S. Ct. 2208 (2006). Most recently, on April 21, 2014, the agencies proposed new regulations to define “waters of the United States” in a manner that would expand jurisdiction. 79 Fed. Reg. 22,188 (Apr. 21, 2014). Efforts by these agencies to expand Section 404 jurisdiction are being monitored. Should changes take effect, Alabama Power will evaluate the scope and nature of any additional compliance obligations.

In 2011 the Corps of Engineers indicated to Alabama Power that the practice of “lop and drop”, which is used to clear transmission line rights of way in wetlands, no longer will be an acceptable practice. In the view of the Corps of Engineers, the felling of large diameter trees in a wetland that are left undisturbed constitutes a fill. The practical impact of this determination will be the need to construct many more roads in wetlands in order to remove timber and to mitigate for those roads, either through the Company’s own wetlands banks or through purchased credits at commercial mitigation banks.

Hydro Licensing

The Federal Energy Regulatory Commission (FERC) issued a new hydro license for the Coosa projects on June 20, 2013. Unfortunately, a number of provisions in the license are not properly based on the FERC licensing record or are problematic operationally. As a result, Alabama Power has filed a request for a rehearing of certain provisions in the new license and a delay in implementing these provisions until the rehearing process is complete. Articles governing the project's CWA Section 401 water quality certification are among the disputed provisions. The water quality certification issued by ADEM requires Alabama Power to meet a 4.0 parts per million (ppm) dissolved oxygen standard during generation.

FERC misinterpreted the water quality certification to require 4 ppm dissolved oxygen at all times, instead of only during generation. On rehearing, Alabama Power has requested that FERC correct its misinterpretation of ADEM's water quality standards and water quality certification and change the water quality related license articles to reflect the appropriate state water quality standard for the hydro projects. Several other parties, including the Georgia Environmental Protection Division; the Atlanta Regional Commission; and Alabama Rivers Alliance and American Rivers have also filed for rehearing of the Coosa License. These parties have challenged several aspects of the Coosa License and have requested FERC require Alabama Power to meet an even more stringent standard of 5 ppm dissolved oxygen at all times.

In order to meet the state standard of 4.0 ppm during generation, new and upgraded turbine aeration systems will be installed at several facilities, followed by three years of monitoring and reporting at all facilities to ensure water quality requirements are met or exceeded. If FERC does not correct its misinterpretation of the Coosa water quality certification, Alabama Power could be required to meet 4.0 ppm dissolved oxygen in the tailrace of all projects at all times, including periods of non-generation. Similarly, if FERC grants Alabama Rivers Alliance and American

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Rivers' rehearing request Alabama Power could be required to meet a 5.0 ppm dissolved oxygen standard at all times. It is unknown at this time how Alabama Power will comply with a standard more stringent than the state standard.

In addition to Section 401 certification, new licenses for the Coosa and Warrior projects include many other terms and conditions that will result in significant additional capital and operational expenditures over the life of the new licenses, which are based on proposals Alabama Power included in its application for these projects.

Alabama Rivers Alliance and American Rivers have also submitted a letter to FERC indicating their intent to sue FERC over violations of the Endangered Species Act.

On March 31, 2010, FERC issued a new 30-year license for the Lewis Smith and Bankhead developments on the Warrior River. The Smith Lake Improvement and Stakeholder Association (SLISA) has petitioned the D.C. Circuit for review of the FERC licensing order. On September 26, 2014, the D.C. Circuit Court of Appeals issued a decision dismissing SLISA's appeal of the Warrior River License. SLISA has petitioned the court for rehearing en banc. Alabama Power is currently complying with and implementing the terms and conditions of this license.

On June 8, 2011, Alabama Power submitted the application to FERC for relicensing Martin Dam on the Tallapoosa River. The application proposed a 3 foot increase in the winter elevation of the reservoir and a conditional extension of the summer level into the fall months. FERC issued its draft Environmental Impact Statement (EIS) on June 6, 2013, in which the staff rejected the change to the water levels at Lake Martin. FERC conducted a public meeting in Alexander City on July 17, 2013, which was attended by over 600 members of the public, the vast majority of which supported the pool elevation changes. In addition, Alabama Power and over 800 stakeholders submitted written comments to FERC in support of the change.

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Municipal and County Regulations

Under pressure from EPA and environmental advocates, many local governments are passing ordinances to control construction stormwater. However, in 2014, the Alabama Legislature passed a law exempting regulated utilities from local stormwater regulation.

Endangered Species

Alabama is home to a growing list of threatened and endangered (T&E) species. On September 9, 2011, the Fish and Wildlife Service (FWS) announced its intent to study the expansion of the critical habitat for the Gopher Tortoise from the extreme southwestern counties to what is now all of south Alabama. This species can occur on potential new transmission line rights-of-way and must be avoided or relocated. The outcome of the study by FWS remains undetermined at this time.

Alabama Power continues to address the impacts to its construction, maintenance and operations activities as T&E species are encountered. On July 8, 2013, FWS issued a recovery plan for the Alabama Sturgeon, which called for water flows in the range of previously agreed to releases. On September 19, 2013, the National Marine Fishery Service announced a 90-day finding on a petition to list Alabama shad as threatened or endangered under the Endangered Species Act and to designate critical habitat concurrent with the listing. During the summer of 2013, Alabama Power became aware that the Indiana Bat could impact projects in north Alabama. Suitable accommodations were made with FWS, including clearing in months when the bats are not migrating in the area.

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In June 2014, the Northern Long-Eared Bat was proposed for listing by the FWS and in October 2014, the Black Pine Snake was likewise proposed. The listings of both species could impact transmission line construction.

TOXICS RELEASE INVENTORY

As part of the Emergency Planning and Community Right-to-Know Act (EPCRA), coal- and oil-fired electric power plants began in 1999 to provide EPA with data relative to specific chemicals released in the burning of fossil fuels. The report is part of a provision of the act known as the Toxics Release Inventory (TRI). A number of other industries have been reporting under this provision since 1987. While TRI neither sets emission limits nor establishes discharge requirements, the information in the inventory is made public. Currently, EPA and EPRI studies on power plants show that chemical emissions of TRI substances from coal and oil-fired plants are not present in the air at levels that should pose a concern to public health. The largest TRI releases from coal-fired power plants consist of acid gases such as:

- Hydrochloric acid
- Sulfuric acid
- Hydrogen fluoride

With the installation and operation of scrubbers at several plants, Alabama Power has reduced the release of these aerosols by 72 percent.

COAL COMBUSTION RESIDUALS

Fossil fuel combustion residuals, including coal combustion ash and gypsum, are currently exempt from EPA hazardous waste regulations by virtue of the Beville Amendment to the Resource Conservation and Recovery Act (RCRA). The RCRA statute also directs EPA to

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conduct studies of the exempted “Bevill wastes” to determine whether hazardous waste regulation is warranted.

Based upon approximately 20 years of scientific studies, EPA confirmed in April 2000 that fossil fuel combustion products do not warrant regulation as a hazardous waste. In December 2008, a breach occurred in an ash impoundment at a TVA facility in Kingston, Tennessee. The breach resulted in over 500 million gallons of ash and water being released from the impoundment into the adjoining river and properties. There was no loss of life, but the event caused significant property damage. Cleanup costs of this event are estimated at over \$1 billion. As a result, EPA is now re-evaluating its position on all Coal Combustion Residuals (CCRs).

On June 21, 2010, EPA issued a proposed rule concerning CCRs. EPA is considering regulation of CCRs as a hazardous waste in order to have more direct control of the process. EPA asked for comments on two primary options being considered for regulation of CCRs: a version that regulates this material as a Subtitle C hazardous waste and a version that regulates it as a Subtitle D non-hazardous waste. Both primary options require groundwater monitoring, lined facilities, strenuous siting requirements, and strict dam inspection requirements. Another version, referred to as “D prime,” requires regulation under Subtitle D but allows for continued use of existing surface impoundments. Currently, between 30 and 40% of CCRs are recycled for some beneficial use such as a cement additive or wallboard manufacture. This beneficial use most likely would not continue under a Subtitle C option. While both options would significantly increase operational and capital expenses associated with CCRs, the Subtitle C option poses compliance costs far greater than those projected under a Subtitle D scenario. EPA estimates the costs of a Subtitle C regulation to exceed \$21 billion for the utility industry; however, at least one non-agency estimate places the cost to industry of a requirement to convert from wet to dry

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handling of ash and gypsum at approximately \$39 billion. Alabama Power submitted comments on the proposed rule on November 21, 2010, and like much of the utility industry, advocated adoption of the D Prime version of the regulation, with administration to be handled at the state level. In the meantime, in August, 2013, EPA solicited comments from the public through a NODA (Notice of Data Availability). EPA asked for more information concerning, among other things, the proposed closure period for existing ash ponds, building an ash landfill over a closed ash pond, and some groundwater models. Alabama Power submitted comments and re-emphasized its support of the D prime option and the continued use of existing ponds with proper groundwater monitoring in place. After various litigants sought to require EPA to issue a final rule, the District Court for the District of Columbia has ordered EPA to publish a final CCR Rule by December 19, 2014.

At the state level, CCRs have traditionally been exempt from regulation in Alabama. As of May, 2011, the state exemption was removed. While ash ponds already regulated by an NPDES water discharge permit are exempt from this new rule, it has prompted the need for a solid waste landfill permit for any new dry ash or gypsum storage facilities. As a result, Alabama Power is currently pursuing an ADEM solid waste landfill permit at two locations.

EPA has completed a campaign to inspect all CCR impoundment structures across the country. Since 1972, Alabama Power has performed its own annual inspections on each structure using best engineering practices. However, in response to the TVA event, EPA is also formalizing a dam safety program for these impoundments. EPA has inspected all six Alabama Power plant ash pond dams. All six received the highest ranking given under the program, which is a "Satisfactory" rating.

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**ESTIMATED ENVIRONMENTAL CAPITAL EXPENDITURES FOR 2015 – 2019
GENERATION**

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Table 1 – Summary of Generation Environmental Capital Expenditures for 2015–2019

Official 2015 Capital Budget (\$000)

	2015	2016	2017	2018	2019
Total Nox Projects (SCR's)	14,092	8,484	14,202	11,764	20,487
Total CCR Projects	-	-	-	-	-
Total Effluent Guidelines/NPDES	1,108	375	500	-	-
Total MATS	358,799	87,649	500	500	5,000
Total Hydro Aeration and Minimum Flow Projects	-	-	3,950	2,200	-
Total Air Projects	406,478	147,154	32,880	26,872	32,431
Total Land & Water Projects	7,016	24,278	19,916	15,130	9,590

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Table 2 – Summary by Plant of Environmental Capital Expenditures for 2015–2019

Official 2015 Capital Budget (\$000)

	2015	2016	2017	2018	2019
Total Barry	52,822	14,325	11,275	8,575	6,700
Barry Nox Projects (SCR's)	4,800	-	2,200	-	2,200
Barry MATS	45,747	11,395	-	-	-
Barry Effluent Guidelines/NPDES	-	-	-	-	-
Total Gaston	164,065	63,008	19,610	17,050	2,475
Gaston Nox Projects (SCR's)	500	2,750	700	3,600	575
Gaston MATS	161,415	45,608	500	500	1,000
Gaston Effluent Guidelines/NPDES	1,100	300	500	-	-
Total Gorgas	142,446	18,696	7,830	1,200	25,700
Gorgas Nox Projects (SCR's)	2,510	-	3,000	200	12,100
Gorgas MATS	133,641	17,446	-	-	4,000
Gorgas Effluent Guidelines/NPDES	6,296	1,250	4,830	900	9,600
Total Greene	13,350	13,200	-	-	-
Greene MATS	13,200	13,200	-	-	-
Total Miller	40,811	61,718	7,631	6,947	6,506
Miller Nox Projects (SCR's)	6,282	5,734	6,052	5,514	5,612
Miller MATS	4,796	-	-	-	-
Miller Effluent Guidelines/NPDES	29,733	56,984	1,579	1,433	934
Total Other	-	485	2,500	6,030	640
Other Nox Projects (SCR's)	-	-	2,250	2,450	-
Other Effluent Guidelines/NPDES	-	485	250	1,580	640
Total Hydro	-	-	3,950	2,200	-

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Table 3(a) – Plant Barry Environmental Capital Expenditures for 2015–2019

Official 2015 Capital Budget (\$000)

	DESCRIPTION	PE	2015	2016	2017	2018	2019
Barry	Unit 3 CEMS MATS	022506	21	10	-	-	-
Barry	Unit 3 Gas Capability	026106	13,478	11,249	-	-	-
Barry	Unit 4 - Dry Sorbent Injection	034916	12,041	-	-	-	-
Barry	Unit 4 - Activated Carbon Injection	034917	9,525	136	-	-	-
Barry	Unit 5 - SCR Elevator	039519	-	-	-	-	-
Barry	Unit 5 - SCR Catalyst Replacement	039905	4,800	-	2,200	-	2,200
Barry	Unit 5 - BROMINE INJECTION	039913	3,136	-	-	-	-
Barry	Common - Gas Line	045902	7,546	-	-	-	-
	Total Barry		52,822	14,325	11,275	8,575	6,700
	Barry Nox Projects (SCR's)		4,800	-	2,200	-	2,200
	Barry MATS		45,747	11,395	-	-	-

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Table 3(b) – Plant Gaston Environmental Capital Expenditures for 2015–2019

Official 2015 Capital Budget (\$000)

DESCRIPTION		FE	2015	2014	2017	2018	2019
Gaston	Unit 5 - Catalyst Replacement	069904	500	2,750	500	3,000	500
Gaston	Unit 5 - Activated Carbon Injection	069921	2,505	550	-	-	-
Gaston	Unit 5 - Baghouse - SAMC	069922	1,125	1,216	-	-	-
Gaston	Unit 5 - Baghouse	069925	156,485	43,842	-	-	-
Gaston	Unit 5 - CEMS MATS	069926	1,300	-	-	-	-
Gaston	Unit 5 - SCR Ammonia Piping	069943	-	-	200	600	75
Gaston	Unit 5 - Baghouse Bags	069944	-	-	500	500	1,000
Gaston	Unit 5 - SCR Ammonia Piping	069943	-	-	200	600	75
Gaston	Unit 5 - Baghouse Bags	069944	-	-	500	500	1,000
Gaston	Unit 5 - SCR Ammonia Piping	069943	-	-	200	600	75
Gaston	Unit 5 - Baghouse Bags	069944	-	-	500	500	1,000
Total Gaston			164,065	63,008	19,610	17,050	2,475
Gaston Nox Projects (SCR's)			500	2,750	700	3,600	575
Gaston MATS			161,415	45,608	500	500	1,000

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Table 3(c) – Plant Gorgas Environmental Capital Expenditures for 2015–2019

Official 2015 Capital Budget (\$000)

DESCRIPTION		FY	2015	2016	2017	2018	2019
Gorgas	Unit 8 Mercury Catalyst	096904	9,000	1,500	-	-	2,000
Gorgas	Unit 9 Mercury Catalyst	103355	9,000	1,500	-	-	2,000
Gorgas	Unit 10 - Install Title 1 Clean Air SCR Catalyst	108903	2,510	-	3,000	-	6,000
Gorgas	Unit 10 - SCR Inlet Duct Additions	108905	-	-	-	100	6,000
Gorgas	Unit 10 - Ammonia Forwarding Pumps	108916	-	-	-	-	-
Gorgas	Unit 10 - Ammonia Unloading Compressors	108917	-	-	-	100	100
Gorgas	Unit 10 - Ammonia Vaporizers	108918	-	-	-	-	-
Gorgas	Unit 8-10 - SCR Soot blower	108921	-	-	-	-	-
Gorgas	Unit 8-10 - Baghouse	111725	110,273	13,946	-	-	-
Gorgas	Unit 8-10 - CEMS MATS	111742	1,368	-	-	-	-
Gorgas	Unit 8-9 - TRONA Injection	111748	4,000	500	-	-	-
Total Gorgas			142,446	18,696	7,830	1,200	25,700
Gorgas Nox Projects (SCR's)			2,510	-	3,000	200	12,100
Gorgas MATS			133,641	17,446	-	-	4,000

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Table 3(d) – Plant Greene Co. Environmental Capital Expenditures for 2015–2019

Official 2015 Capital Budget (\$000)

	DESCRIPTION	PS	2015	2016	2017	2018	2019
Greene	Unit 1 - Gas Capability	119502	6,600	6,600	-	-	-
Greene	Unit 2 - Gas Capability	124202	6,600	6,600	-	-	-
	Greene Total Greene		13,350	13,200	-	-	-
	Greene Greene MATS		13,200	13,200	-	-	-

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Table 3(e) – Plant Miller Environmental Capital Expenditures for 2015–2019

Official 2015 Capital Budget (\$000)

DESCRIPTION		PL	2015	2016	2017	2018	2019
Miller	Unit 1 - Install Clean Air Catalyst	131403	1,056	1,607	1,056	1,607	1,056
Miller	Unit 2 - Install SCR Catalyst	149701	1,056	1,607	1,056	1,607	1,056
Miller	Unit 1-4 - Bromine Injection	150323	4,796	-	-	-	-
Miller	Unit 3 - Replace SCR Catalyst	159501	1,750	1,150	1,750	1,150	1,750
Miller	Unit 3 - PLC to DCS Conversion for Vaporization Skid Controls	161001	-	110	220	-	-
Miller	Unit 3 - FGAS controls/analyzer replacement	161002	335	-	-	-	-
Miller	Unit 4 - Replace SCR Catalyst	164503	1,750	1,150	1,750	1,150	1,750
Miller	Unit 4 - PLC to DCS Conversion for Vaporizer Skid Controls	168001	-	110	220	-	-
Miller	Unit 4 - FGAS Controls/Analyzer Replacement	168002	335	-	-	-	-
Miller	Unit 1-4 - DRY AIR Treatment System	174103	-	-	-	100	25
	Total Miller		40,811	61,718	7,631	6,947	6,506
	Miller Nox Projects (SCR's)		6,282	5,734	6,052	5,514	5,812
	Miller MATS		4,796	-	-	-	-
	Miller Ash/Gypsum Feed Project - Air		-	-	-	100	25

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Table 4 – Other Generation Environmental Capital Expenditures for 2015–2019

Official 2015 Capital Budget (\$000)

DESCRIPTION		PL	2015	2016	2017	2018	2019
Theodore	Replace SCR Catalyst	187901	-	-	250	1,250	-
Barry CC	Unit 6 - Replace SCR Catalyst	186801	-	-	1,000	600	-
Barry CC	Unit 7 - Replace SCR Catalyst	186802	-	-	1,000	600	-
Total Other			-	485	2,500	6,030	640
Other Nox Projects (SCR's)			-	-	2,250	2,450	-

Table 5 – Hydro Generation Environmental Capital Expenditures for 2015–2019

Official 2015 Capital Budget (\$000)

	DESCRIPTION	PA	2015	2016	2017	2018	2019
Hydro	Harris - Minimum Flow Project	200701	-	-	-	-	-
Hydro	Weiss - Install Oxygenation System	246101	-	-	-	1,700	-
Hydro	Weiss - Install Spillway Oxygenation	251801	-	-	-	-	-
Hydro	Henry - Install Oxygenation System	253101	-	-	2,250	-	-
Hydro	Logan Martin - Install Oxygenation System	259901	-	-	1,700	500	-
	Total Hydro		-	-	3,950	2,200	-
	Hydro Aeration and Minimum Flow Projects		-	-	3,950	2,200	-

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ESTIMATED ENVIRONMENTAL CAPITAL EXPENDITURES FOR 2015 – 2019
TRANSMISSION

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Table 6 – Summary of Transmission Environmental Capital Expenditures for 2015–2019

Official 2015 Capital Budget (\$000)

DESCRIPTION	2015	2016	2017	2018	2019
Total Transmission Projects	3,597	-	-	-	-

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Table 7 – Transmission Capital Expenditures for 2015–2019

Official 2015 Capital Budget (\$000)

DESCRIPTION	2015	2016	2017	2018	2019		
[Redacted]							
Total Transmission Projects			3,597	-	-	-	-

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ESTIMATED ENVIRONMENTAL O&M EXPENSE FOR 2015 – 2019

Table 8 – Environmental O&M Expense for 2015-2019

2015 O&M Budget and Forecast

		2015	2016	2017	2018	2019
E316A	316A REGULATION	163,356	168,257	173,305	178,503	183,858
E316B	316B REGULATION	210,509	216,824	223,328	230,029	236,930
EDISP	ENVIRO DISPOSAL ACTIVITY-ENVIRO AFFAIRS COMPLIANCE	224,965	231,713	238,665	245,825	253,200
EHYDR1	COOSA/WARRIOR/TALLAPOOSA SHORELINE STUDIES, ESA STUDIES&CONS	540,000	465,000	440,000	415,000	250,000
EHYDR11	ENVIRO FISH CULTURE FACILITY	457,000	286,000	230,000	175,000	175,000
EHYDR12	ENVIRO FISHERIES HABITAT ENHANCEMENT	345,000	229,000	229,000	229,000	229,000
EHYDR6	ENVIRO TROUT STOCKING-SMITH TAILRACE	30,000	30,500	32,000	32,500	34,000
EHYDR9	ENVIRO WILDLIFE HABITAT ENHANCEMENT&RESTORATION	821,000	182,000	282,000	50,000	50,000
EMERC	ENVIRONMENTAL MERCURY RATA TESTING	1,683,543	1,808,474	1,844,642	1,881,536	1,919,166
F34	COMPLIANCE-ENVIRONMENTAL	18,039,748	21,070,799	22,718,267	21,911,663	21,833,030
F8A	ASH SALES	(2,094,509)	(2,157,344)	(2,222,064)	(2,288,727)	(2,334,503)
F8E	OTHER ENVIRONMENTAL	1,000,000	-	-	675,000	-
F8G	GYPSUM SALES	(503,251)	(518,349)	(533,899)	(549,916)	(560,919)
FAAE	ASH SLUICE-ENVIRONMENTAL	220,214	403,442	458,962	523,152	544,511
FAC	FLY ASH	2,134,652	2,174,472	2,260,550	2,356,098	2,574,814
FAD	NPDES TREATMENT	4,653,596	4,923,570	5,037,613	5,159,626	5,340,092
FAE	ASH DISPOSAL	4,458,265	4,494,203	4,933,453	4,598,031	4,803,338
FAF	PRECIPITATOR	10,278,350	6,444,504	7,874,296	7,220,419	8,200,520
FAFE	PRECIP. FLUE GAS CONDITIONING	-	175,000	677,365	861,072	885,047
FAG	BAG HOUSE	168,393	3,119,293	7,135,283	12,490,792	12,510,715
FAY	ASH HANDLING SYSTEM	1,300,251	2,055,009	1,905,575	2,347,084	2,611,766
FBF	STACK	211,691	210,028	263,575	218,923	95,323
FBH	CEMS-ALL ASSOC. DEVICES	2,376,121	2,335,021	2,533,133	2,472,118	2,651,878
FBKA	ACTIVATED CARBON INJECTION (ACI)	216,295	6,291,066	5,697,284	5,825,210	5,958,489
FBKB	SULFURIC ACID MIST CONTROL (SAMC)	71,513	1,746,642	1,500,158	1,536,375	1,573,677
FBKC	DRY SORBENT INJECTION (DSI)	-	5,345,258	5,446,818	3,988,495	4,068,265
FBKE	BROMINE INJECTION	931,928	1,386,366	1,382,798	1,434,328	1,438,729
FDA	DUST SUPPRESSION	5,697,381	7,369,549	7,732,283	7,983,364	8,115,475
FHK	COOLING TOWERS	2,348,922	2,966,228	2,564,238	3,186,786	2,551,369
FNF	WASTE WATER	739,211	779,616	2,038,233	2,751,478	3,037,476
FTE	ENVIRONMENTAL PROJECTS (HYDRO)	2,961,188	2,986,128	3,043,556	3,137,141	3,223,505
FVK	WATER/STEAM INJECTION SYSTEM	84,126	121,485	177,443	177,994	178,503
FXA	FLUE GAS HANDLING	2,096,895	2,182,303	2,267,485	2,258,294	2,481,244
FXB	LIMESTONE HANDLING	20,714,092	22,986,733	23,225,451	25,268,481	28,654,459
FXC	SCRUBBER VESSEL	4,180,754	3,490,210	4,205,802	3,591,798	5,314,399
FXD	GYPSUM HANDLING	4,021,607	4,444,505	3,800,020	4,673,493	4,766,051
FXE	RETURN WATER	42,000	51,468	33,833	54,297	55,384
FXF	MAKE-UP WATER	57,636	83,896	73,757	70,640	118,747
FXG	SUBSTATION/SWITCHYARD	9,701	10,400	8,759	10,725	11,245
FXJ	GAS COOLING/RECYCLE SPRAY	923,855	583,711	649,503	648,500	1,030,196
FXK	STATION SERVICE	211,457	281,754	357,645	307,537	361,864
FXL	GYPSUM DRAW-OFF	185,831	213,469	168,316	225,649	230,362
FXM	OXIDATION AIR	40,000	30,000	55,000	55,900	56,673
FXN	WATER TREATMENT	4,500	8,000	8,000	12,500	12,600
FXP	SERVICE FACILITIES-SCRUBBER SYS	394,425	469,559	347,830	467,308	485,310
FXR	FIRE PROTECTION-SCRUBBER SYS	25,950	27,292	24,793	25,771	28,961
FXS	AIR SYSTEM-SCRUBBER SYS	191,135	238,242	201,334	179,328	232,208
FXY	SCRUBBER SYSTEM	10,465,484	9,889,796	10,136,330	13,437,154	12,517,767
FXZ	INSTRUMENTS AND CONTROLS-SCRUBBER SYS	33,235	40,277	27,163	31,206	43,228
FYA	AMMONIA UNLOADING/STORAGE AREA	11,528,700	12,089,429	12,650,380	12,309,895	13,184,842
FYB	AMMONIA FORWARDING SYSTEM	43,874	44,816	45,786	62,286	63,943
FYC	AMMONIA VAPORIZATION SKID	65,130	71,583	69,097	71,165	72,592
FYD	AMMONIA INJECTION GRID	67,296	63,021	63,837	63,021	38,837
FYE	REACTOR BOXES	709,785	708,617	799,829	718,049	825,373
FYF	AUXILIARY SYSTEMS	161,573	161,172	177,129	171,951	181,481
FYH	SNCR	814,771	870,629	873,401	890,322	931,654
FYY	SELECTIVE CATALYTIC REDUCTION	1,591,344	2,598,179	2,204,246	3,333,085	2,908,684
Total		118,350,486	138,978,813	148,792,586	160,392,250	167,240,361

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**ENVIRONMENTAL CAPITAL PLACED IN SERVICE FOR 2015
GENERATION**

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**ENVIRONMENTAL CAPITAL PLACED IN SERVICE FOR 2015
TRANSMISSION**

Table 10 – Environmental Transmission Capital Placed In Service for 2015

Alabama Power Company
2015 Environmental Projects Placed in Service
Transmission and Distribution
\$000

DESCRIPTION	PE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	PRB Total
Transmission														
Leeds-Wesbury 115KV	44021A	250	67	317	3,186	803	4,556	4,556	4,556	1,595	6,150	7,550	13,700	13,700
Leeds-Wesbury 115KV T1-Survey Approx. 500' Section	44021C									1,495				1,495
Gaston - Upgrade East Pelham 230 KV Terminal to 2000 AMPS	44323C					134								134
Gaston - East Pelham Upgrade to 110 DEG C	44323D					669								669
Montgomery Switching Station	46382C									100				100
County Line Road - MTGY SS 230KV	46382D											7,550		7,550
Thurlow Dam - Union Springs 115	46471D													2,929
Future 230-KV Transmission Line - Mobile	48732B													(18)
Future 230KV Transmission Line - Mobile	48732C	250	250	250										750
Yacht Club DS	60075C		67											67
		250	317	3,186	3,753	4,556	4,556	4,556	4,556	1,595	6,150	7,550	13,700	13,700
Total Transmission and Distribution														
Accumulated Transmission and Distribution														
Total Expenditures/ Placed in Service		250	567	3,753	3,753	4,556	4,556	4,556	4,556	6,150	6,150	13,700	13,700	13,700
Retirements														

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ENVIRONMENTAL O&M EXPENSE FOR 2015

Table 11 – Environmental O&M Expense for 2015**2015 O&M Budget and Forecast**

Activity	Environmental Activities	2015
E316A	316A REGULATION	163,356
E316B	316B REGULATION	210,509
EDISP	ENVIRO DISPOSAL ACTIVITY-ENVIRO AFFAIRS COMPLIANCE	224,965
EHYDR1	COOSA/WARRIOR/TALLAPOOSA SHORELINE STUDIES, ESA STUDIES&CONS	540,000
EHYDR11	ENVIRO FISH CULTURE FACILITY	457,000
EHYDR12	ENVIRO FISHERIES HABITAT ENHANCEMENT	345,000
EHYDR6	ENVIRO TROUT STOCKING-SMITH TAILRACE	30,000
EHYDR9	ENVIRO WILDLIFE HABITAT ENHANCEMENT&RESTORATION	821,000
EMERC	ENVIRONMENTAL MERCURY RATA TESTING	1,683,543
F34	COMPLIANCE-ENVIRONMENTAL	18,039,748
F8A	ASH SALES	(2,094,509)
F8E	OTHER ENVIRONMENTAL	1,000,000
F8G	GYPSUM SALES	(503,251)
FAAE	ASH SLUICE-ENVIRONMENTAL	220,214
FAC	FLY ASH	2,134,652
FAD	NPDES TREATMENT	4,653,596
FAE	ASH DISPOSAL	4,458,265
FAF	PRECIPITATOR	10,278,350
FAFE	PRECIP. FLUE GAS CONDITIONING	-
FAG	BAG HOUSE	168,393
FAY	ASH HANDLING SYSTEM	1,300,251
FBF	STACK	211,691
FBH	CEMS-ALL ASSOC. DEVICES	2,376,121
FBKA	ACTIVATED CARBON INJECTION (ACI)	216,295
FBKB	SULFURIC ACID MIST CONTROL (SAMC)	71,513
FBKC	DRY SORBENT INJECTION (DSI)	-
FBKE	BROMINE INJECTION	931,928
FDA	DUST SUPPRESSION	5,697,381
FHK	COOLING TOWERS	2,348,922
FNF	WASTE WATER	739,211
FTE	ENVIRONMENTAL PROJECTS (HYDRO)	2,961,188
FVK	WATER/STEAM INJECTION SYSTEM	84,126
FXA	FLUE GAS HANDLING	2,096,895
FXB	LIMESTONE HANDLING	20,714,092
FXC	SCRUBBER VESSEL	4,180,754
FXD	GYPSUM HANDLING	4,021,607
FXE	RETURN WATER	42,000
FXF	MAKE-UP WATER	57,636
FXG	SUBSTATION/SWITCHYARD	9,701
FXJ	GAS COOLING/RECYCLE SPRAY	923,855
FXK	STATION SERVICE	211,457
FXL	GYPSUM DRAW-OFF	185,831
FXM	OXIDATION AIR	40,000
FXN	WATER TREATMENT	4,500
FXP	SERVICE FACILITIES-SCRUBBER SYS	394,425
FXR	FIRE PROTECTION-SCRUBBER SYS	25,950
FXS	AIR SYSTEM-SCRUBBER SYS	191,135
FXY	SCRUBBER SYSTEM	10,465,484
FXZ	INSTRUMENTS AND CONTROLS-SCRUBBER SYS	33,235
FYA	AMMONIA UNLOADING/STORAGE AREA	11,528,700
FYB	AMMONIA FORWARDING SYSTEM	43,874
FYC	AMMONIA VAPORIZATION SKID	65,130
FYD	AMMONIA INJECTION GRID	67,296
FYE	REACTOR BOXES	709,785
FYF	AUXILIARY SYSTEMS	161,573
FYH	SNCR	814,771
FYY	SELECTIVE CATALYTIC REDUCTION	1,591,344
Total		118,350,486

APPENDIX A

ACRONYMS AND ABBREVIATIONS

ACI	Activated Carbon Injection
ADEM	Alabama Department of Environmental Management
ADROP	Alabama Drought Response Operating Proposal
APC	Alabama Power Company
APEA	Applicant Prepared Environmental Assessment
ARP	Acid Rain Program
BA	Biological Assessment
BACT	Best Available Control Technology
BART	Best Available Retrofit Technology
BO	Biological Opinion
BTU	British Thermal Unit
CAA	Clean Air Act
CAAA	Clean Air Act Amendments of 1990
CAIR	Clean Air Interstate Rule
CAM	Compliance Assurance Monitoring
CAMR	Clean Air Mercury Rule
CAVR	Clean Air Visibility Rule
CCRs	Coal Combustion Residuals
CEMS	Continuous Emissions Monitoring System
CMMS	Continuous Mercury Monitoring System
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CO ₂	Carbon Dioxide

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COHPAC	Compact Hybrid Particulate Collector
CSAPR	Cross-State Air Pollution Rule
CWA	Clean Water Act
DSI	Dry Sorbent Injection
EGU	Electric Generating Unit
EPA	Environmental Protection Agency
EPRI	Electric Power Research Institute
EPCRA	Emergency Planning and Community Right-to-Know Act
ESP	Electrostatic Precipitator
FERC	Federal Energy Regulatory Commission
FGD	Flue Gas Desulfurization
FIP	Federal Implementation Plan
FPA	Federal Power Act
FR	Federal Register
FWS	Fish and Wildlife Service – Department of Interior
GHG	Greenhouse Gases
HAP	Hazardous Air Pollutant
Hg	Mercury
HLI	Hydrated Lime Injection
LAER	Lowest Achievable Emission Rate
LNB	Low-NO _x Burner
MACT	Maximum Achievable Control Technology
MATS	Mercury and Air Toxics Standards
NAAQS	National Ambient Air Quality Standards
NBP	NO _x Budget Trading Program

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NH ₃	Ammonia
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
NPDES	National Pollution Discharge Elimination System
NSPS	New Source Performance Standards
OFA	Overfire Air
OTAG	Ozone Transport Assessment Group
O&M	Operation and Maintenance
PM	Particulate Matter
PM-2.5	Particulate Matter less than 2.5 micrometers in size
PM-10	Particulate Matter less than 10 micrometers in size
PME	Protection Mitigation and Enhancement
PPM	Parts per million
PPT	Parts per trillion
PRB	Powder River Basin
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
RCRA	Resource Conservation and Recovery Act
RES	Renewable Electricity Standard
SAMC	Sulfuric Acid Mist Control
SCR	Selective Catalytic Reduction
SIP	State Implementation Plan
SNCR	Selective Noncatalytic Reduction
SO ₂	Sulfur Dioxide
SO ₃	Sulfur Trioxide

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T-Fired	Tangential or tangentially fired
T&E	Threatened and Endangered
TMDL	Total Maximum Daily Load
TR	Transformer/Rectifier
TRI	Toxics Release Inventory
UARG	Utility Air Regulatory Group
USWAG	Utility Solid Waste Activities Group
UWAG	Utility Water Act Group
UVB	Ultraviolet-B
VOC	Volatile Organic Compounds